ASCS
HANDBOOK

PACKAGING OF DAIRY PRODUCTS

For KCCO and Dairy Industry

SHORT REFERENCE
DACO-Dairy

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
Washington, D.C.

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Agricultural Stabilization and Conservation Service
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PACKAGING OF DAIRY PRODUCTS (DACO-DAIRY)

AMENDMENT 1

Approved By: Acting Deputy Administrator. Commodity Operations

1 PURPOSE

To provide a single document covering the packaging and packing of dairy products for domestic and export shipments as applicable.

2 FEDERAL SPECIFICATIONS AND STANDARDS

Copies may be obtained from the General Services Administration Regional Business Service Centers or GSA, Washington, D.C. (see Exhibit 3).

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PART 1 GENERAL REQUIREMENTS

1 CONTAINERS AND MATERIALS

A All containers and materials used shall be as specified herein and in applicable referenced specifications.

1 Containers and other packaging materials shall be new and made of materials and by processes which will not impart an odor, flavor, color or other objectionable characteristic to the product being packaged and which meet the requirements of the Federal Food, Drug and Cosmetic Act, as amended, and the regulations issued thereunder.

2 Shipping containers shall be marked with the applicable compliance and certification markings as required by the container specification or applicable Freight Classification.

3 Containers not requiring Freight Classification shall be identified as to the manufacturer.

4 Other packaging materials (cartons, liners, films, etc.) may be marked to show compliance or, shipping containers used for delivery of these materials shall show that they conform to specification requirements. If neither certification is present, the contractor shall request a certification of compliance from the packaging material supplier.

5 Reference to the weight capacity of a container (e.g. 50-pound bag) shall mean a container which will hold 50 pounds of product.

B The U.S. Standards for Condition of Food Containers shall be used for determining the acceptability of the filled containers used in packaging and packing of commodities listed herein except bulk butter and rindless block cheese.

2, 3 (RESERVED)

PART 2 DAIRY PRODUCTS

SECTION 1 BUTTER

4 PACKAGING

A Bulk Butter.

1 Shall be packed 60, 64, or 68 pounds net weight in fiberboard shipping containers conforming to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 200, Style RSC. Grade 200 is an exception to the box specification as permitted under paragraph 6.4 thereto.

2 Alternatively, packing may be 60, 64, or 68 pounds net weight in Bliss-Style, die-cut, C-flute containers with 200 p.s.i. bodies and 250 p.s.i. ends.

3 Containers shall meet the following requirements as applicable to type being used:

a Inner flaps may be of full length and meet in the center when closed or may be economy length not less than 3 inches from the scoreline.

b Ends shall be attached to the body by means of hot melt adhesive and body joints shall be on the outside.

c No staples or wire stitching is permitted.

d Closure and sealing of outer flaps shall be in accordance with Rule 41, Section 7 of the Uniform Freight Classification using 2 inch paper tape running full length of the seam and extending over ends not less than 2 1/2 inches.

e Each box shall be provided with a liner of vegetable parchment paper as specified in subparagraph 7 A or a polyethylene bag or wrapper as specified in subparagraph 7 B.

f When parchment paper is used the inside surfaces of container shall be coated scoreline to scoreline in accordance with good commercial practice, with sufficient paraffin (of not lower than 128 degrees F melting point), polyethylene paraffin combination or polyethylene to prevent absorption of moisture by the fiberboard. (Flaps need not be coated.)

g Coating of containers lined with a polyethylene bag or wrapper is not required.

h The polyethylene wrapper shall be inserted in such a manner as to completely encircle the inside of the box. The wrapper shall be of sufficient length and width to provide a fold top and bottom and an overlap on the side, all of which completely covers the butter.

B Print Butter. One pound prints shall be:

1 Elgin or Western style prints.

2 Properly wrapped with:

a A single sheet of 30-pound basis weight dry waxed vegetable parchment paper or wet strength paper, or

b A 20 to 30 pound wet strength paper waxed with a blend of polyethylene and microcrystalline or paraffin wax.

C Canned Butter. Butter in cans shall meet the specifications as set forth below and shall be vacuum packed with a minimum machine vacuum of 20 inches.

1 Common Specifications for 1, 2, 3, 5 and 3/4, and 6 pound cans.

a Be clean, sanitary, metal containers, free from dents, rust, or other defects,

b Be round, open top style, non-beaded, with soldered side seam and compound lined double-seamed ends,

c Be made throughout of 0.25 commercial electrolytic tinplate.

d Be double coated on the inside, bodies and ends (two individual coats) with an adherent, insoluble, non-toxic enamel suitable for butter.

e Have an outside coating of rust resistant lacquer, enamel or varnish for the protection of the cans.

f Be hermetically sealed, after filling and vacuumizing

2 One Pound Cans:

a Size, 401x305 or 307x409 with a plastic overcap.

b Weight, a minimum nominal basis weight of 85 pounds.

3 Two Pound Cans:

a Size, 401x508 or 401x509 with a plastic overcap.

b Weight, a minimum nominal basis weight of 85 pounds.

4 Three Pound Cans:

a Size, 502x512 with a plastic overcap.

b Weight, minimum nominal basis weights as follows:

(1) Beaded - 100 pound throughout.

(2) Nonbeaded - 112 pound bodies, 85 pound ends.

5 Five and Three-quarters and Six-pound No. 10 cans:

a Size, 603x700.

b Weight, minimum nominal basis weight of 107 pounds.

6 Plastic Caps shall:

a Be made of a transparent, pliable, low-density plastic (polyethylene or similar type material) meeting FDA requirements.

b Have a minimum top wall thickness of .020 inches, edge undercut to provide snap-tight fit.

c Weigh not less than 11 grams, and the clarity of the material must be such that lithographed instructional copy on the top end of the can is plainly legible when viewed through the cap. The instructions to read "Open with your can opener. Close with the plastic cap." These words shall be lithographed in sufficient size to stand out prominently.

d Not be warped to a degree that might make removal or reapplication difficult, before being applied initially to the cans.

5 PACKING

A Bulk Butter. Packaged as specified in paragraph 4 shall require no further packing.

B Print Butter. 30, 32 or 36 one-pound prints, as specified, wrapped in accordance with subparagraph 4 B shall be packed in fiberboard containers as specified in paragraph 4 for bulk butter with inside surfaces coated scoreline to scoreline. Flaps need not be coated and vegetable parchment liners are not required. Snug-fitting dry chipboard pads of not less than 20 point shall be inserted inside the containers, top and bottom.

C Canned Butter - Domestic.

1 One and Two Pound Cans.

a Thirty-six (36) one-pound cans or eighteen (18) two pound cans of butter shall be packed in each new, snug-fitting fiberboard box, constructed in accordance with Type CF, Class Domestic, Style RSC, Grade 200, of Federal Specification PPP-B-636.

b The cans shall be packed on end and in the arrangements as set forth in Figures 1 and 2 respectively.

c Dividers made of the same material as the shipping container shall be placed horizontally between each tier of cans when tier arrangement is used.

d Closure of the packed container shall be in accordance with the appendix to the box specification for domestic shipment. Only one kind (type and size) of shipping container shall be used in any delivery.

FIGURE 1 PACKING ARRANGEMENT

ONE POUND CANS

Number Per Case	Length	Width	Depth
36	4	3	3

FIGURE 2 PACKING ARRANGEMENT

TWO-POUND CANS

Number Per Case	Length	Width	Depth
18	6	3	1
		OR	
18	3	3	2

2 Three-Pound and No. 10 Cans.

a Three-pound cans, size 502x512 shall be packed in quantities of twelve (12) single or double tiered and No. 10 cans in quantities of six (6)

b The shipping container shall conform to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 200, Style RSC.

D Canned Butter-Export.

1 Sizes and quantities as specified in subparagraph C shall be packed in shipping containers conforming to Federal Specification PPP-B-636, Type CF, Class-Weather-Resistant, Variety SW Grade V3c or W5c, Style RSC.

2 Alternatively, containers may be wax impregnated and conform to Federal Specification PPP-B-1163, Type SW, 200 pound grade.

E Patties. Butter patties in layer or sheet form, cut 48, 60, 72 or 90 to the pound as specified, and patties cut 90 to the pound individually placed on plastic or bleached sulphite paperboard, shall be packaged as specified in Federal Specification C-B-801, latest issue in effect, except closure and seal of boxes is not limited to the hot melt adhesive method.

6 CLOSURE

A Domestic.

1 Domestic fiberboard boxes shall, as a minimum, be closed in conformance with the requirements of Rule 41, Section 7 of the Uniform Freight Classification.

2 The inner and outer flaps shall be drawn together as closely as possible to assure a compact and tight pack.

3 The flaps shall not project over the side or end edges and the application of adhesive or tape stitches shall be such as to prevent lifting of free edges and corners of outer flaps on filled boxes.

B Export. Weather-resistant, fiberboard boxes shall be closed by firmly gluing top and bottom flaps with adhesive applied over not less than 70 percent of the surface area between the flaps and reinforcing with one of the following materials applied in accordance with the requirements of Tables V and VI of PPP-636. Filament reinforced tape as specified in subparagraph 4 shall be applied in accordance with the appendix to PPP-T-97

1 Flat steel strapping shall conform to Federal Specification QQ-S-781, Type I, Class A or B Grade 2 Standard. For gross weight of up to 35 pounds use 1/4 x 0,015 inches and 3/8 x 0.015 for weights over 35 to 70 pounds.

2 Round Steel Strapping shall conform to Federal Specification QQ-S-790, Class A, finish 2 zinc coated. For gross weight of up to 35 pounds use 16-1/2 gage and 16 gage for weights over 35 to 70 pounds.

3 Extruded, oriented synthetic plastic strapping shall conform to Federal Specification PPP-S-760, Type II, 3/8 x 0.015 inches. Application shall be with metal clips or by heat seal.

4 Filament reinforced pressure-sensitive tape shall conform to Federal Specification PPP-T-97, Type II, Class B, minimum 1/2 inch width.

7 LINERS, WRAPPERS AND BAGS

(See subparagraph 4 A 3.)

A Vegetable parchment liner of not less than 27 pounds basis weight per ream (500 sheets 24" x 36"). The liner shall:

1 Be of sufficient length and width and so placed in the containers that all surfaces of the butter shall be completely covered.

2 Be treated by being held completely immersed in a 15 percent salt solution at the boiling point for 30 minutes.

B Polyethylene bag or wrapper shall be fabricated from material meeting the requirements of Federal Specification L-P-378, as amended, and shall not be less than 1.25 mils in thickness.

8, 9 (RESERVED)

SECTION 2 CHEESE

10 PACKAGING

A Rindless Block. Cheddar cheese in blocks of approximately 40 or 60 pounds as specified, shall be prepared as follows:

1 Wrappers shall be applied to each block by vacuumizing, pressurizing, heating, or by any combination of these methods in order to securely close and permanently exclude the air between the wrappers and cheese.

2 Wrapper and application shall meet the requirements for U. S. Grade A rindless cheese in U. S. Standards for Grades of Cheese.

3 When heat/pressure type sealer is used, each wrapped block of cheese shall be overwrapped in a sheet of:

a Waxed glassine,

b Waxed deodorized kraft, or

c Waxed sulphite paper.

4 Wrappers conforming to Types I through V which are mechanically sealed under a minimum of 20 inches of vacuum instead of the heat/pressure system, may replace the 40 pound per ream outer coating with a 26 pound per ream modified sealant formulated to withstand vacuum and provide an air-tight seal.

5 Wrappers in Types I, III, IV, V have the following similar specifications.

a A sheet of not more than 210 yield moisture-proof cellophane, or

b A sheet of not more than 250 yield polyvinylidene chloride coated cellophane, laminated with a blend of elastomeric and/or polymeric materials,

c To a sheet of plain aluminum foil (nominal gauge .00035 inches or heavier) laminated with a blend of elastomeric and/or polymeric materials to another sheet of not more than 210 moisture-proof coated cellophane which is coated with not less than 40 pounds per ream of a blend of elastomeric and/or polymeric materials on the moisture-proof coated side.

6 Wrappers in all other types have the following specifications:

a Type II. A sheet of not more than 140 yield polyvinylidene chloride coated cellophane, coated with not less than 40 pounds per ream of a blend of elastomeric and/or polymeric materials.

b Type VI. A sheet of not more than 210 yield nitrocellulose coated cellophane or a sheet of not more than 250 yield polyvinylidene chloride coated cellophane or a sheet of 50 gauge polyester polyvinylidene chloride coated may be used as a substrate.

(1) To these substrates may be laminated by means of a blend of elastomeric and polymeric materials, a sheet of not more than 210 yield nitrocellulose coated cellophane or a sheet of not more than 250 polyvinylidene chloride coated cellophane or a sheet of not less than one mil polyolefin film.

(2) To each of these combinations a sealant of not less than 26 pounds per ream of elastomeric or polymeric material will be applied. A third ply of nominal gauge .00030 foil, or heavier, may be sandwiched within the above constructions by use of another layer of elastomeric or polymeric material if desired. The oxygen barrier of these packaging structures is less than 1 cc/100 sq. in./24 hrs. at 73 degrees F and 100 percent relative humidity.

c Type VII. A wrapper composed of 2 sheets of essentially polyvinylidene chloride copolymer (double wound) of not less than 150 gauge. The wrapper shall be applied to all surfaces by means of a pressure operated heat jacketed cheese press at a temperature of not less than 200 degrees F for not less than 25 seconds to induce adequate oiling-off in order to permanently exclude air between wrapper and the cheese surface.

d Type VIII. A pouch of 240, 300 or 310 gauge transparent film fabricated from two sheets.

(1) The inner sheet of the 240 gauge film shall be not less than 140 gauge of rubber hydrochloride or polyisoprene.

(2) The inner sheet 300 gauge film shall not be less than 200 gauge of coextruded low density polyethylene and polyvinylidene chloride copolymer (Ethylene Vinyl Acetate).

(3) The inner sheet of the 310 gauge film shall be not less than 250 gauge ethylene vinyl acetate copolymer.

(4) The second sheet of the 240 and 300 gauge films shall be not less than 100 gauge of balanced, biaxially oriented polypropylene, polyvinylidene chloride coated on one side.

(5) The second sheet of the 310 gauge film shall be not less than 60 gauge polyamide, polyvinylidene chloride coated on one side. The coated polypropylene or polyamide must not permit oxygen permeability above 1 cc/100 sq. inches/24 hrs. at 73 degrees F 100 percent relative humidity.

(6) The inner ply of pouches made of rubber hydrochloride or polyisoprene shall be coated with a light application of starch dust to prevent sticking. The pouch end will be evacuated to at least a minimum of 20 inches of vacuum to permanently exclude air between the wrapper and the cheese surface, and heat sealed. Excess end of pouch shall be folded squarely to the block to reduce wrinkling during storage.

e Type IX. A multi-layered wrapper composed of an inner layer of ethylene vinyl acetate copolymer, center and outer layer of polyolefin or copolymer of ethylene.

(1) The film shall be biaxially oriented and heat shrinkable to a minimum of 20 percent at 185 degrees F. It shall be a minimum thickness of 180 gauge with maximum oxygen transmission rate of 70 cc/M^2 /24 hours when tested in accordance with ASTM Method D 1434.

(2) Shrinking shall be accomplished by either hot air or hot water at a temperature to obtain adequate shrink. If hot water is used the block shall be subjected to an air blast to remove excess water prior to being placed in the packing container.

7 Performance criteria for wrapper Types I through IX.

a An alternative to these wrapper types, as specified in paragraphs 5 and 6, rindless blocks may be packaged in wrappers in the following systems.

(1) System I - Hand-wrap (Heat/pressure)

(2) System II - Vacuum Pouch (Chamber or snorkel)

(3) System III - Vacuum Shrink Pouch

(4) System IV - Vacuum Roll Stock (Heat/pressure)

b Wrappers will conform to the performance criteria as specified in Figure 3.

c Seal integrity:

(1) System I - The packaging material shall maintain good fold characteristics prior to the heat/pressure operation and after which shall adhere to itself with sufficient tenacity that, after cooling to 10 degrees C, a firm seal is maintained under normal conditions of use.

(2) Systems II, III, and IV - The packaging material shall be capable of forming a seal which will meet the following integrity test. EXAMPLE: A sealed packaged shall be inflated to a minimum pressure of p.s.i. and totally immersed in water for one minute with no air bubbles emanating from the seal or other areas of the package.

FIGURE 3 PERFORMANCE CRITERIA

Wrapper Performance Criteria	SYSTEM I	II	III	IV
Materials comprising each wrapper must comply with FDA for food packaging use and not adversely effect cheese quality in any way.	applies	applies	applies	applies
Maximum Oxygen Permeability (by ASTM D1434 at 73 degrees F 50 percent RH in cc/M /24 hrs.,/ATM)	15	20	50	15
Maximum Moisture Vapor Transmission (by ASTM E398 at 100 degrees F 90 percent RH in grams/M /24 hrs./ATM)	15	15	9	15
Creasing Abuse Maximum Oxygen Permeability (by ASTM D1027 and D1434 at 73 degrees F 50 percent RH in cc/M /24 hrs./ATM)	20	30	50	20
Creasing Abuse Maximum Moisture Vapor Transmission (by ASTM D1027 and E398 at 100 degrees F 90 percent RH in grams/ M /24 hrs./ATM)	20	30	9	20
Minimum Tear Resistance (by ASTM D1922 at 73 degrees F 50 percent RH in grams using unnotched sample)	175	200	200	200
Minimum Impact Resistance (by ASTM D3420 at 73 degrees F 50 percent RH in cm-kg)	8	16	25	12
Minimum Unrestrained Shrink (by ASTM D2732 at 195 degrees F in percent)	n/a	n/a	25	n/a
Minimum Shrink Tension (by ASTM D2838 at 195 degrees F in p.s.i.)	n/a	n/a	125	n/a

B Process. Cheese shall be packaged in two and five pound loaves and seven pound cans as follows:

1 Two-pound loaf shall be:

a Completely wrapped in a transparent film pouch fabricated from a sheet of not more than 210 yield moisture grade coated cellophane, or a sheet of not more than 250 yield polyvinylidene chloride coated cellophane.

b One side of the wraps shall be coated with not less than 36 pounds per ream of a thermoplastic composition (wax and rubber) and coated with a light application of starch dust to prevent sticking. The pouch ends shall not be sealed.

2 Two-pound loaf carton wrapped as in subparagraph 1 shall be packed in a full telescope carton with a full-seal Brightwood blank bottom made of a minimum .045 inch-single or double-skimmed news-lined chipboard with a cover made from .020 inch double-skimmed news-lined chipboard.

3 Five-pound loaf shall be :

a Completely wrapped in a transparent film pouch fabricated from a sheet of 210 yield moisture-grade anchored cellophane or a sheet of not more than 250 yield polyvinylidene chloride coated cellophane.

b Coated on one side with not less than 40 pounds per ream of a thermoplastic composition (wax and rubber) and coated with a light application of starch dust to prevent sticking. The pouch ends shall be heat sealed.

4 Five-pound loaf carton.

a A full telescope carton with a full seal and Brightwood blank bottom, or a quad-stay blank bottom of 125-pound minimum test fiberboard. The cover shall be diagonal out-folded, a telescoping Brightwood blank not out-folded, or a telescoping quad-stay blank style, manufactured from 0.020 inch-single or double-skimmed news-lined chipboard.

b A three piece carton with the cover and bottom made of 0.026 inch-single or double-skimmed news-lined chipboard and the sleeve of 0.080 inch double jute or 200-pound test corrugated (flutes to run in the short direction) or solid fiberboard of 200-pound test.

c A partial telescoping carton with a seal end Brightwood blank bottom of 125 pound test fiberboard.

(1) The bottom shall have a short flap glued to the outside and extending upward from the bottom a minimum distance of one and forty-nine sixty-fourths inches (1-49/64") or half the depth of the bottom , or a quad-stay blank bottom of 125 pound minimum test fiberboard.

(2) The cover shall be a diagonal out-fold, a telescoping Brightwood blank, or a telescoping quad-stay blank with a depth of not less than one and forty-nine sixty-fourths inches 1-49/64") or half the depth of the bottom.

(3) The cover shall be made from not less than 0.20 inch single or double-skimmed news-lined chipboard.

d A two piece carton with a full seal end Brightwood blank of 125 pound test fiberboard with a glued-on partial cover.

(1) The carton shall be perforated and scored flat blank to provide easy opening perforated tear tape and tuck-in reclosure feature.

(2) The cover shall be made of not less than 20 point (.020 inch) chipboard which shall overlap not less than 1 3/4 inches on front and back of the bottom.

5 Seven pounds of process cheese shall be packaged in No. 10 cans as specified in subparagraph 4 C 5. The cans shall be lined, bottom, body and top with a vegetable parchment having a basis weight of 27 pounds per ream.

11 PACKING

A Domestic. Cheddar cheese packaged in blocks of 40 or 60 pounds as specified in subparagraph 10 A shall be packed in fiberboard or ply veneer corrugated fiberboard combination shipping containers as follows:

1 In containers meeting the requirements of Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 200, Style RSC.

2 Alternatively, blocks may be packed in veneer corrugated fiberboard box combination as follows:

a Single wall corrugated sheet testing not less than 175 pounds when scored and folded forms a wrapper, and when combined with ply veneer forms a fully enclosed box.

b Joint of box shall be not less than 1-1/2 inches long from score, flaps not less than 1-1/2 inches long from score.

c Two pieces of ply veneer not less than 1/8 inches thick with kraft liners not less than 33 pounds per thousand square feet shall be laminated to inner face of corrugated wrapper and when brought together shall be of such length to extend full perimeter of box (2L + 2D) and shall extend full width of box with grain of wood running parallel to width of box.

d Box flaps shall be glued closure and shall be glued in such a way to gain full advantage of the ply veneer stacking strength and render product safe in handling and storage in the manner usually associated with cheese products.

3 EXCEPTION: Containers for 60 pound block shall have a minimum bursting strength of 275 p.s.i.

B Export. Cheddar cheese packaged in blocks of 40 or 60 pounds as specified in subparagraph 10 A shall be packed in fiberboard shipping containers as follows:

1 In containers meeting requirements of Federal Specifications PPP-B-636, Type CF, Class Weather-Resistant, Variety SW, Grade V3c or W5c, Style RSC.

2 Alternatively, export shipping containers may be wax impregnated and shall conform to Federal Specification PPP-B-1163, Type SW, Grade 200.

3 EXCEPTION: For 60 pound blocks, the alternate wax impregnated box shall be a minimum Grade 275.

C Liners. All containers shall have a reinforcing inner liner. If the block cheese does not fully fill the container and the wrapper requires continuous pressure, fiberboard filler pads shall be used to insure proper pressure. The liner shall:

1 Have sufficient rigidity with a deflection of not more than 1/4 inch to support a load of 1,000 pounds when exposed to normal commerical handling, curing, and storage conditions.

2 Have a deflection under 2,500 pounds minimum compression tests of not more than 1/4 inch when 7 inches in height; and 3/8 inch when 10 inches in height. Scores and gaps shall provide a 90 degree corner fold to fit the block of cheese snugly.

3 Be of the one piece construction and either:

a Corrugated fiberboard of 275-pound minimum test; A or C flute, with flutes running in the short direction, single or double-wall; have a 33-pound corrugating medium and all components thoroughly impregnated (not coated) with a wax composition to add strength to the liner.

b Double-wall corrugated fiberboard of not less than 350-pound minimum test (except in BB flutes) to run in the short of direction.

c Wood veneer, faced on each side with kraft linerboard with the wood grain in the short direction.

D Process - Domestic.

1 Two Pound Loaves. Twelve or fifteen 2-pound loaves, wrapped and packaged as specified in subparagraph 10 B, shall be packed into shipping containers conforming to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 200, Style RSC.

2 Five Pound Loaves and No. 10 Cans.

a Shall be packed in quantities of six (6). The shipping containers shall conform to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 200, Style RSC.

b Alternatively, end-loading conventional slotted, Type CF, Variety SW, Grade 200 boxes with corrugations running parallel to the score line of the box may be used. However, when end-loading type is used, only corrugated inner cartons shall be permitted and they must be arranged within the shipping case in a manner that the corrugations of the inner carton run perpendicular to the corrugations of the shipping case.

E Process - Export. Cheese in sizes and quantities as specified in subparagraph D 1 and 2 shall be prepared as follows:

1 Packed in shipping containers conforming to Federal Specifications PPP-B-636, Type CF, Class, Weather-Resistant, Variety SW, Grade V3c, W5c, Style RSC.

2 Alternatively, export shipping containers shall be wax impregnated and shall conform to Federal Specification PPP-B-1163, Type SW, Grade 200.

12 CLOSURE

Closure of fiberboard shipping containers shall be in accordance with paragraph 4, except short flaps may be on the outside.

13 BARREL CHEESE

Approximately 500 pounds of bulk Cheddar cheese and granular cheese shall be packed in fiber drums or corrugated fiberboard containers. Construction shall be as follows:

A Fiber Drum. Shall be constructed in accordance with Type I, Grade B of Federal Specification PPP-D-723.

1 Sidewall shall consist of kraft linerboard having a minimum thickness of 0.090 inches convolutely wound using sodium silicate adhesive or equivalent.

2 Top and bottom headings shall consist of kraft linerboard having a minimum total thickness of 0.220 inches with the plies firmly glued together.

3 Covers shall be coated, waxed or laminated in such a manner as to reduce the possibility of absorption of free flowing whey during production, packing and storage of cheese. An opening in the top cover is permitted if desired by the producer for further drainage of free flowing whey. If a polyethylene facer sheet is used, it shall conform to Figure 4.

4 As shown in Figure 4, the covers shall have two notches approximately 1-3/4 inch by 2 inch for the strapping clip.

5 Top and bottom covers shall be secured to the body with 1/2 inch wide flat steel strapping.

6 Strapping shall be applied straight and sufficiently taut to embed into edges of the drum but not to the extent of cutting, tearing, or otherwise damaging the drum.

7 Strapping shall have a minimum breaking strength of 300 pounds per square inch (p.s.i.)

B Corrugated Fiberboard Containers.

1 Shall be constructed as shown in Figure 5 with the body in one piece, cut, scored and slotted as shown and the body joint along one of the edges parallel to scores.

2 Body shall consist of single corrugated fiberboard, 180-pound natural kraft B-Flute, with a minimum bursting strength of 350 pounds per square inch (p.s.i.).

3 In producing the body joint, one edge of the fiberboard shall overlap the adjacent edge not less than 1-1/2 inches and shall be secured with steel staples spaced not more than 1-inch apart.

4 An inner corrugated fiberboard taped tube shall be used and be made of double wall corrugated fiberboard 126 pound natural kraft, A-B or B-C flute, with a minimum bursting strength of 350 p.s.i. The weight of facings shall be increased where necessary to meet the 350 pound bursting strength.

5 Inner tube shall be in the same height as the outer container.

6 Top and bottom covers shall each be in one piece, cut and scored.

7 Covers shall be coated, waxed or laminated in such a manner as to reduce the possibility of absorption of free flowing whey during production packing and storage of the cheese. An opening in the top cover is permitted if desired by the producer for further drainage of free flowing whey.

8 Cover shall be secured to the body with 1/2 inch wide flat steel strapping. In addition, two straps (flat steel) shall be placed around the body for added strength.

9 Strapping shall be applied straight and sufficiently taut to embed into the container but not to the extent of cutting, tearing or otherwise damaging the container.

10 Strapping shall have a minimum breaking strength of 300 pounds per square inch (p.s.i.).

C Liners. The bulk cheese shall be packaged in a shrinkable copolymer of vinylidene chloride-vinyl chloride liner. The liner shall:

1 Be fabricated from film having a minimum thickness of 200 gauge with a maximum oxygen transmission rate of 210 cc/m2/24 hours when tested in accordance with ASTM Method D 1434. It shall have a minimum tensile strength of 7,700 pounds per square inch at 73 degrees F, when tested in accordance with ASTM Method D 882.

2 Conform to the contour of the container and be of sufficient length to be completely folded over the cheese. The interior of the liner may be coated with a light application of starch dust.

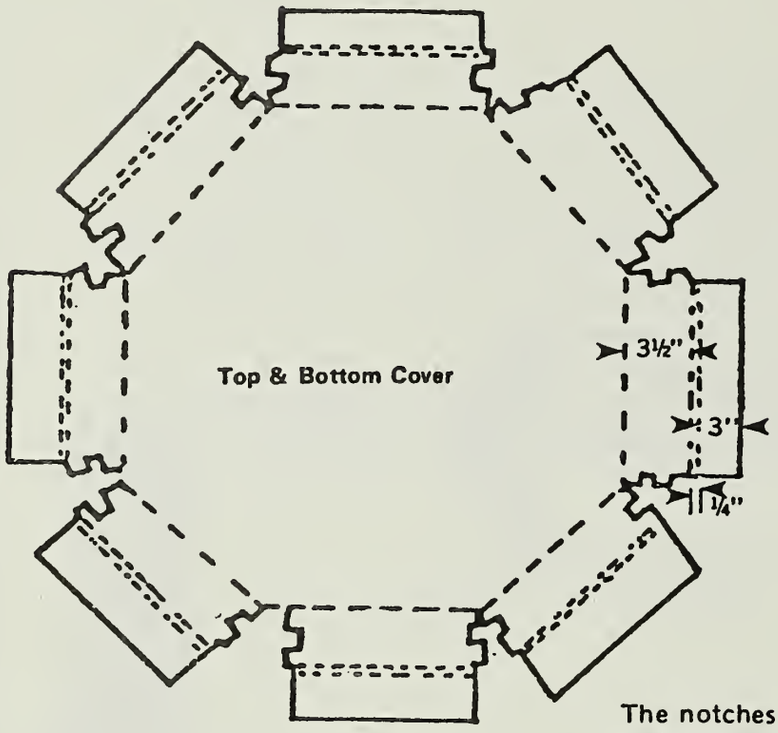
(Text continued on page 25)

FIGURE 4 CLOSED DRUM CONTAINER

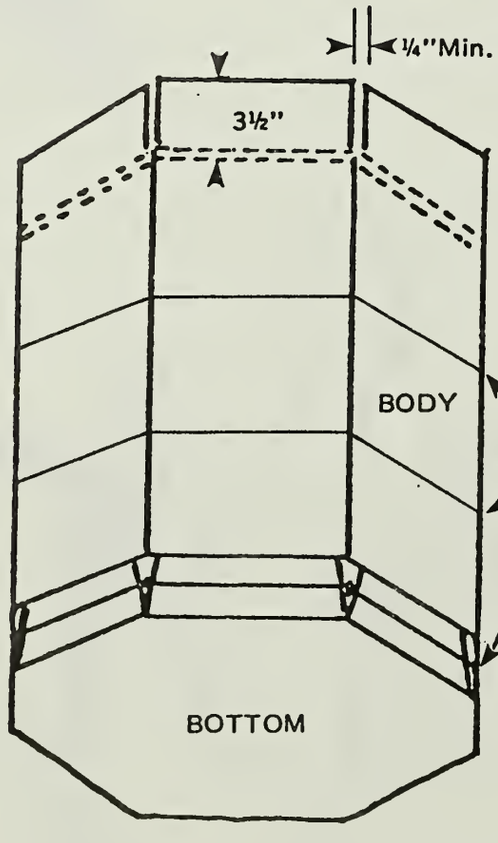
	A	B	C	D	E	F	G	H	I	J	K
23	23 9/16	23 13/16	23 1/4	23	5 Min.	38 3/4	39 3/16	1 1/2	1 3/4	2	.220
21 1/2	21 31/32	21 13/16	21 3/4	21½	5 Min.	38 3/4	37 3/16	1 1/2	1 3/4	2	.220

NOTES:
1 Sidewall - Mullen Test - 1000 PSI
2 Top & Bottom - Thickness - 200 PT - Mullen Test - 1300 PSI
3 Drum Secured Using ½" Wide Metal Strapping Around Top and Bottom Covers.

FIGURE 5 TOP AND BOTTOM OF CONTAINER



The notches in the flaps of the top and bottom pieces shall be located 1½-inches from the score line and shall measure ½ by ¾-inches. ALL DIMENSIONS plus or minus 1/8 inches.



The top and bottom ends of the body shall be cut and scored identically for positioning of the top and bottom covers.

½-inch metal strapping shall be applied around top and bottom covers and circumference of body after filling.

SECTION 3 REGULAR AND FORTIFIED NONFAT DRY MILK

14 PACKING (MULTIWALL PAPER SACKS)

A This section covers the packing of nonfat dry milk in 50 pound multiwall paper sacks and in containers produced in accordance with a performance test criteria.

B Fifty (50) pounds of product shall be packed in multiwall paper sacks meeting the requirements of the latest revision and amendments of Federal Specification UU-S-48, Type II, Style A or Type VI, Style B.

15 CONSTRUCTION

The bag shall be constructed of a minimum of three walls of flat or extensible kraft paper and an inner polyethylene liner. Total basis weight of the walls of paper shall be a minimum of 180 pounds when flat kraft is used and 160 pounds when extensible paper is used. The outermost ply shall be of wet-strength paper. The bag shall meet the following requirements. The:

A Inner polyethylene film facing the product shall be a loose-inserted 4 mil low density food grade liner.

B Length of the liner shall be not less than the length of the outer multiwall sack plus 8 inches.

C Width shall be capable of encircling the inside of the sack without stretching or forming excessive folds. After filling the liner shall be:

1 Closed by expelling as much excess air as practical,

2 Twisting the liner,

3 Folding in a goose-neck position and securing as closely to the top as is practical using cotton tape, twine or any other securing method used in the industry.

D Maximum average water-vapor transmission of the film at 90 to 95 percent relative humidity at a temperature of 100 degrees F plus or minus 5 degrees F shall be 0.45 gram per 100 square inches in 24 hours.

E Longitudinal seam of the outer wall of the bag shall be glued so that there is no more than 3/16 inch of unglued edge on the outer surface of the bag. A complete seal of the seam is recommended.

16 CLOSURES

A Type II, Style A shall meet the following specifications:

1 Bottom and top closures of the bag shall be closed by sewing through all walls of the outer bag with 12/6 needle and 12/5 cotton looper thread, or a comparable strength thread or with a single thread chain stitch, Type 101, with a 12/6 thread. Stitches shall be spaced 3.0 to 3.6 to the inch and not less than 3/8 inch and not more than 3/4 inch from the the top and bottom ends of the bag.

2 Stitches along the bottom and top of the bag shall be covered with not less than 70-pound basis weight flat extensible or low stretch creped kraft tape. The tape:

a Shall cover the bottom and top edges of the walls and overlap the stitches by not less than 1/2 inch plus or minus 1/8 inch.

b Ends shall extend from the bag sides not less than 1/2 inch and not more than 2 inches so as to enclose and cover the cut-off stitch.

c Ears may be folded and bonded to the body surface of the bag.

d Shall be applied and bonded to the outer wall by means of heat activated or hot melt-adhesives. The tape shall be applied so that there is no unbonded edge of the tape beyond the sewing line.

B Type VI, Style B shall meet the following specifications. The:

1 Bottom and top of the 50-pound bag shall be closed to provide a tight seal using hot-melt or thermoplastic adhesive applied along the top edge of the long side of the bag extending downward at least 1-3/8 inches. The fold line of the closure shall be 1-5/8 inches plus or minus 3/8 inch below the top edge of the long side of the bag.

2 The outer wall of the bag shall be stepped at bottom and top foldover flap beyond all inner walls in order to provide a positive seal over the ends of the inner walls.

17 FORTIFIED NONFAT DRY MILK

Fifty (50) pounds of product shall be packed as in paragraphs 14, 15 and 16.

18 PERFORMANCE CRITERIA FOR CONTAINERS

As an alternative to the 3-ply multiwall bag as specified in subparagraph 14 B and paragraph 17, fifty (50) pounds of milk may be packed in bags which will meet the following performance standards for impact resistance.

A Construction.

1 Any bag construction consisting of one or more plies of material (including but not limited to, paper, synthetics, plastic films, woven and non-woven fabrics, etc.).

2 The bag shall be capable of being printed with the information required and capable of retaining a loosely-inserted 4 mil low-density food grade polyethylene liner as specified for multiwall paper containers in paragraph 14 or any sealed free film food grade liner which meets the water-vapor transmission requirements of the loosely-inserted liner (15 D).

3 Closure of the loosely-inserted liner after filling shall be as specified for multiwall paper bags as in subparagraph 15 B and C.

B Test Requirements.

1 Ten filled and sealed bags must each survive a single drop test on the butt or bottom, on a shock machine which produces for each test a velocity change of 195 inches per second using a shock duration of .002 seconds without loss of product.

2 Test shall be conducted under standard conditions of temperature (73.4 F plus 1.8 F) and relative humidity (50% plus 2%).

3 Filled bags must be placed in the conditioned atmosphere for sufficient time before the tests are conducted for the bag materials to come to equilibrium.

C Special Considerations.

1 Bags submitted under this performance specification will be expected to perform as well as those under the specification for 3-ply multiwall bags with respect to closures, palletization, resistance to snags, tears, and insect infestation and retention of printed information.

2 It must be recognized that bags meeting this performance specification may or may not meet the rules of the Uniform Freight and the National Motor Freight Classification Committees. Therefore, Rule 49 of the Uniform Freight Classification or Item 689 of the National Motor Freight Classification must be complied with for those packages which do not meet existing rules.

3 Independent or private laboratories known to be capable of conducting the shock machine test described in subparagraph 18 B are listed below.

a MTS Systems Corporation
Box 24012
Minneapolis, MN 55424 (612) 944-4000

b Lansmont Corporation
5123 Aurelius Road
Lansing, MI 48910 (517) 394-0556

or

P.O. Box 1390
Monterey, CA 93940 (201) 932-3679

c Rutgers University
Packaging Science and
Engineering Dept.
New Burnswick, N. J. 08903 (201) 932-3679

d Bemis Company, Inc.
P. O. Box 568
Peoria, IL 61601 (309) 682-5406

e Michigan State University
School of Packaging
East Lansing, MI 48824 (517) 355-9580

SECTION 4 NONFAT DRY MILK FORTIFIED WITH VITAMINS A & D - (4 1/2 POUND PACKAGE)

19 PACKAGING

A Containers. Four and one-half (4 1/2) pounds of the product shall be packaged in a polyethylene bag fabricated from material conforming to Federal Specification L-P-378, Type I or II, Finish 2, having a 3 mil (.003 inch) wall thickness. The bag may be fabricated from flat or tubular material.

B Closures .

1 Seams and closures shall be effected by electronic, thermal impulse, jaw, rotary or band type sealers and shall provide the same protective qualities as the body of the bag. As far as practical, excess air shall be removed prior to final seal.

2 Each 4 1/2 pound polyethylene bag packed for export shall be printed as follows:

Nonfat Dry Milk Fortified
With Vitamins A And D
Furnished By the People
Of The
United States of America
Not to be Sold or Exchanged

a Said markings to be in bold type print, minimum 3/16 inch in height, one color. The location of the markings to be at the discretion of the bag manufacturer consistent with his method of production.

b Said product packaged as in subparagraph A, shall be over-packaged in a carton conforming to Federal Specification PPP-B-566, Style I, Type A, Class A or B, Variety I of sufficient basis weight and mullen test to adequately hold the product. Closure of both ends of the carton shall be with an odor-free non-toxic adhesive applied over all areas of contact between the flaps.

20 PACKING

Twelve cartons of product as specified in paragraph 19 shall be packed in fiberboard shipping containers as follows:

A Domestic Shipment. Shipping containers shall conform to Federal Specification PPP-B-636, Type CF, Class Domestic , Variety SW, Grade 200, Style RSC.

B Export Shipment. Shipping containers shall conform to Federal Specification PPP-B-636, Type CF, Class Weather-Resistant, Variety SW, Grade V3c, W5c or W5s, Style RSC. Alternatively, export shipping containers shall be wax impregnated and shall conform to Federal Specification PPP-B-1163, Type SW, Grade 200.

21 CLOSURE

A Domestic. Domestic fiberboard boxes shall, as a minimum, be closed in conformance with the requirements of Rule 41, Section 7 of the Uniform Freight Classification. The inner and outer flaps shall be drawn together as closely as possible to assure a compact and tight pack. The flaps shall not project over the side or end edges and the application of adhesive or metal stitches shall be such as to prevent lifting of free edges and corners of outer flaps on filled boxes.

B Export. Export, Weather-Resistant, fiberboard boxes shall be closed by firmly gluing top and bottom flaps with adhesive applied over not less than 70 percent of the surface area between the flaps and reinforcing with one of the following strapping materials applied in accordance with the requirements of Tables V and VI of PPP-B-636. Filament reinforced tape as specified in subparagraph 4 shall be applied in accordance with appendix to PPP-T-97.

1 Flat Steel Strapping. Shall conform to Federal Specification QQ-S-781, Type I, Class A or B, Grade 2 Standard. For gross weight of up to 35 pounds use 1/4 x 0.015 inches and 3/8 x 0.015 for weights over 35 to 70 pounds.

2 Round Steel Strapping. Shall conform to Federal Specification QQ-S-790, Class A, finish 2 zinc coated. For gross weight of up to 35 pounds use 16-1/2 gage and 16 gage for weights over 35 to 70 pounds.

3 Extruded, Oriented Synthetic Plastic Strapping. Shall conform to Federal Specification PPP-S-760, Type II, 3/8 x 0.015 inches. Application shall be with metal clips or by heat seal.

4 Filament Reinforced Pressure-Sensitive Tape. Shall conform to Federal Specification PPP-T-97, Type II, Class B, minimum 1/2 inch width.

22 (RESERVED)

SECTION 5 INSTANT NONFAT DRY MILK

23 PACKAGING

This section covers the packaging and packing of Instant Nonfat Dry Milk in 4-pound cartons and bags.

A Unit Cartons.

1 Type I.

a Four (4) pounds of instant nonfat dry milk shall be packaged in plain paperboard carton with sealed ends.

b The carton shall conform to Federal Specification PPP-B-566, Variety I, Style I, made from 0.026 inch solid bleached board from stock normally used in the instant dry milk industry.

c The outer flaps, top and bottom may be fully overlapping or may be of the short or economy type with a minimum one inch overlap. Flaps shall be closed with an odor-free nontoxic adhesive.

d Each carton shall be provided with an interior bridge (minimum 7 inches in length) to lessen bulge and with a plastic or metal pull-out hinged pour spout located in the upper portion of the side panel.

e The sizes of the carton shall be such as to hold 4 pounds of product without excessive headspace. Interior bridges will not be required where innerliners are provided.

2 Type II. Shall be as specified in subparagraph A 1. EXCEPTION: The board stock shall be 0.028 inch white lined Food Grade cylinder board when innerliners are used.

3 Type III. Cartons shall be as specified in subparagraph A 1. EXCEPTION: The board stock shall be 0.026 inch natural manila (brightness 60-63) bleached on the outside with a somerville strut or equal of the same material as the carton. The strut shall be a minimum of 5 inches in length.

4 Type IV. Carton shall be as specified in subparagraph A 1. EXCEPTION: The board stock shall be 0.30 bending chipboard bleached white on the inside surfaces. Interior bridge will not be required.

B Carton Overwraps or Innerliners. Each carton shall be overwrapped and firmly sealed with one of the following wrappers. When used as an innerliner in accordance with industry practice, wax coatings shall be omitted and pour spouts will not be required.

1 Type A. A moisture vapor barrier constructed from lamination of 28-pound special opaque sulphite paper, 10 pounds of polyethylene and .00035 inch aluminum foil. The aluminum foil shall face the carton. The wrapper shall be coated with a protective high gloss heat sealing wax coating on both sides totaling approximately 11 pounds with a minimum of 4 pounds on any one side. The outer surface of the wrapper shall be white.

2 Type B. A moisture vapor barrier constructed from a lamination of 25-pound special opaque sulphite paper, 15 pounds of polyethylene, .00035 inch aluminum foil, 11 pounds of high gloss heat sealing wax fortified with special polymers with a minimum of 4 pounds on any one side. The aluminum foil side shall face the carton.

3 Type C. A moisture vapor barrier constructed of a 25-pound special opaque sulphite paper laminated with 10 pounds of polyethylene to .00030 inch aluminum foil. The aluminum foil shall face the carton when applied as a wrapper. The outer surface of the wrapper shall be white and coated with a high gloss vapor barrier sealing coating of at least 1.5 pounds of a wax-copolymer blend. The aluminum foil surface shall be coated with 8 pounds of a high vapor barrier low temperature sealant of a high hot tack wax-copolymer blend.

4 Type D. A moisture vapor barrier constructed from a lamination of 26-pound pigment coated kraft paper 12 pounds of a wax laminating blend to .00035 inch aluminum foil and overwaxed two sides with a total of 10 pounds of a protective heat sealing wax formulation.

5 Type E. A moisture vapor barrier constructed from a lamination of 25-pound special opaque bleached sulphite paper, 6 pounds of low density polyethylene, .00030 inch aluminum foil, 14-1/2 pound bleached sulphite tissue, and 25 pounds of high gloss heat sealing wax fortified with special polymers with a minimum of 5 pounds on outside printed surface and 4 pounds on inside tissue surface. The tissue side of the wrapper shall face the carton.

C Unit Bags. Four pounds of instant nonfat dry milk shall be packaged in Type A, B, C or D bags meeting the requirements as set forth below.

1 Type A. Gussetted open-mouth bag with a single or double folded heat sealed bottom. The:

a Top of the bag shall be shear cut.

b Base or outer wall shall be 40 pound extensible bleached kraft paper with lamination of 7-1/2 pound polyethylene, .00035 inch aluminum foil and 15 pounds of polyethylene. The 15 pounds of polyethylene shall face the product.

c Bag, after filling, shall be so handled that the excess air is removed prior to heat sealing so that all areas of closures shall provide the same protective qualities as the body of the bag.

2 Type B. Double-wall automatic self-opening style bag.

a The outer wall shall be a minimum 50 pound machine finish white kraft, and the inner wall shall be a minimum 40 pound natural kraft. All seams shall be pasted.

b A separate polyethylene film pouch having a thickness of not less than 0.0015 inch shall be inserted in each double-wall kraft bag.

c After filling, the polyethylene pouch shall have excess air removed and shall be closed in a manner that all areas of closure shall provide the same protective qualities as the body of the pouch.

d A goose-neck tie is acceptable, provided no leakage of instant nonfat dry milk accures when reasonable pressure is applied to the side of the polyethylene pouch.

e After the pouch is closed, the top of the double-wall paper bag shall be folded down and secured in place by means of a conventional commercial metal tie.

3 Type C. Gusseted open-mouth pinch bottom bag with a a single folded stepped bottom secured by hot melt to the back of the bag. The:

a Top shall be shear cut.

b Base stock or outer wall shall be 35 pound bleached kraft paper with laminations of 7-1/2 pound polyethylene, 0.00035 inch aluminum foil and 15 pounds of polyethylene. The 15 pound polyethylene shall face the product.

c Bag, after filling, shall be so handled that excess air is removed prior to heat sealing so that all areas of closure shall provide the same protective qualities as the body of the bag.

4 Type D. Gusseted open mouth bag with a single fold heat sealed bottom.

a The top shall be shear cut.

b The base stock or outer wall, shall be 50 pound bleached kraft coated with 4 pounds per ream of a Laytex-Clay base. Seven pounds of polyvinylidene chloride is applied to the coated surface of the base sheet and 22 pounds of low density polyethylene extruded over the PVDC surface.

c The 22 pound polyethylene side shall face the product.

d All seals, longitudinal back seal and bottoms shall be fin - polyethylene to polyethylene - seals.

e The bag, after filling, shall be so handled that the excess air is removed prior to heat sealing so that all areas of closure shall provide the same protective qualities as the body of the bag.

24 PACKING

A Containers.

1 Six unit cartons or bags shall be packed in each shipping container in an upright position and arranged in two rows of three each.

2 Shipping containers shall conform to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 275, Style RSC, with the exception that the fiberboard shall be constructed of not less than 33 pound corrugating medium with 69 pound facings (138 pounds for both.

3 Suitable partitions of the half slotted style shall be provided for packaging in bags. They shall be full height of the inside of the containers and shall form individual snug-fitting cells for each bag.

B Closures. Domestic fiberboard boxes shall, as a minimum, be closed in conformance with the requirements of Rule 41, Section 7 of the Uniform Freight Classification.

1 The inner and outer flaps shall be drawn together as closely as possible to assure a compact and tight pack.

2 The flaps shall not project over the side or end edges and the application of adhesive or metal stitches shall be such as to prevent lifting of free edges and corners of outer flaps on filled boxes.

25 (RESERVED)

(Text continued on page 39)

SECTION 6 EVAPORATED MILK

26 PACKAGING

The milk shall be:

A Packaged at the rate of 13 fluid ounces in 3 piece metal cans made from differential tinplate 50/25 K. All seams of the can shall be soldered (top, bottom and sides.) Vent holes shall be solder-tipped after filling, or

B Packed in round sanitary style cans made from 50/25 K differentially coated tinplate throughout, compound lined ends, double seamed on, side seam soldered outside, entire inside plain. Cans shall have an outside coating of rust resistant lacquer, enamel or varnish for the protection of the cans. After filling, the cans shall be hermetically sealed.

27 PACKING

A Containers.

1 Forty-eight (48) cans, each containing 13 fluid ounces, shall be packed in fiberboard containers conforming to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 200, Style RSC, Arrangement within the container shall be 6x8 single tier or 6x4 in double tiers. Containers shall be provided with top and bottom pads made of the same material as the shipping container, or

2 Forty-eight (48) cans, each containing 13 fluid ounces shall be packed in the arrangements as set forth above in fiberboard containers conforming to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 275, Style RSC or Style RSC End Flap Construction. Top and bottom pads will not be required.

B Closures. Domestic fiberboard boxes shall, as a mininum be closed in conformance with the requirements of Rule 41, Section 7 of the Uniform Freight Classification.

1 The inner and outer flaps shall be drawn together as closely as possible to assure a compact and tight pack.

2 The flaps shall not project over the side or end edges and the application of adhesive or metal stitches shall be such as to prevent lifting of free edges and corners of outer flaps on filled boxes.

28, 29 (RESERVED)

(Text continued on page 41)

SECTION 7 ENRICHED POWDERED INFANT FORMULA

30 PACKAGING

A Container Size and Weight. The:

1 Infant formula shall be packaged in one-pound cans, net-weight.

2 Cans shall be clean, sanitary, metal containers, free from dents, rust and other defects, 401x401 to 411 in size.

3 Cans shall be round, open-top style beaded or unbeaded and may be provided with a full panel easy open end.

4 Cans shall be constructed with soldered side seams and compound lined double seamed ends, and shall be made throughout of 0.25 commercial electrolytic tin-plate with suitable basis weight to permit vacuum-gas packing with not more than three percent residual oxygen after sealing.

B Construction: The

1 Cans shall have an outside coating of rust-resistant lacquer, enamel or varnish for the protection of the cans.

2 Cans shall be provided with a plastic cap made of a translucent or transparent pliable, Food and Drug Administration approved, low-density plastic of polyethylene or similar type material.

3 Cap shall have a minimum top wall thickness of .020 inches, edge undercut to provide snap-tight fit; shall weigh not less than 7 grams.

4 Plastic caps, before being applied initially to the cans shall not be warped to a degree that might make removal or reapplication difficult.

31 PACKING

A Containers.

1 The one pound cans as specified in subparagraph 30 A shall be packed in quantities of twelve (12) cans per shipping container. The shipping container shall conform to Federal Specification PPP-B-636, Type CF, Class Domestic, Variety SW, Grade 200 style RSC.

2 Domestic fiberboard containers shall, as a minimum, be closed in conformance with the requirements of Rule 41, Section 7 of the Uniform Freight Classification.

B Closures.

1 The inner and outer flaps shall be drawn together as closely as possible to assure a compact and tight pack.

2 The flaps shall not project over the side or end edges and the application of adhesive or metal stitches shall be such as to prevent lifting of free edges and corners of outer flaps on filled boxes.

32, 33 (RESERVED)

SECTION 8 CONCENTRATED LIQUID INFANT FORMULA

34 PACKAGING

Infant formula shall be packaged at the rate of 13 fluid ounces, in clean, sanitary, metal containers, normally used by the industry for this product. After filling, the cans shall be hermetically sealed.

35 PACKING

A Twenty-four (24) 13 fluid ounce cans specified in paragraph 34 shall be packed in shipping containers which conform to Federal Specification PPP-636, Type CF, Class Domestic, Variety SW, Grade 200, Style RSC.

B Alternatively, end-loading conventional slotted, Type CF, Variety SW, Grade 200 boxes with corrugations running parallel to the score line of the box may be used. However, when end loading type is used, the 13 ounce cans must be arranged within the shipping case in an upright position perpendicular to the corrugations of the shipping case.

C The arrangement within the container shall be 4 x 3 in double tiers, or 4 x 6 single tier.

D Closure of the shipping container shall be in accordance with the applicable paragraphs of Federal Specification PPP-B-636 for the style of container used.

GSA REGIONAL BUSINESS SERVICE CENTERS

1 BOSTON, MASS 02203
John M. McCormack, Post Office
and Court House

2 NEW YORK, NY 10007
26 Federal Plaza

3 WASHINGTON, D.C. 20407
GSA Regional Office Building
7th and D Streets, SW

PHILADELPHIA, PA 19106
600 Arch Street

4 ATLANTA, GA 30309
1776 Peachtree Street, NW

5 CHICAGO, ILL 60604
230 South Dearborn

6 KANSAS CITY, MO 64131
1500 East Bannister Road

7 FORT WORTH, TX 76102
819 Taylor Street

HOUSTON, TX 77002
515 Rusk Street
Federal Office Building

8 DENVER, COLO 80225
Denver Federal Center
Building 41

9 SAN FRANCISCO, CA 94105
525 Market Street

LOS ANGELES, CA 90012
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10 SEATTLE, WA 98174
915 Second Avenue
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